

Stennis director addresses area leaders

Stennis Space Center Director Rick Gilbrech addressed dozens of community leaders for a briefing on the state of the NASA facility April 2. Community leaders gathered at the INFINITY Science Center to hear updates about the ongoing work and the future of NASA's federal city site. Gilbrech and leaders of other Stennis agencies assured leaders that the future of the facility is bright. Gilbrech was joined in his presentations by Cmdr. Michael Yohnke, executive officer of the Naval Small Craft Instruction & Technical Training School at Stennis; Cmdr. Tristan Rizzi, commanding officer of Special Boat Team TWENTY-TWO; Dr. Bill Burnett, deputy commander and technical director of the Naval Meteorology and Oceanography Command; and Fred Haise, Apollo 13 astronaut and INFINITY board member. The speakers also met with members of local media following the event.



FY2014 budget request presented

The April 10 release of President Obama's Fiscal Year 2014 budget includes \$17.7 billion in funding for NASA.

"Our budget ensures the United States will remain the world's leader in space exploration and scientific discovery for years to come, while making critical advances in aerospace and aeronautics to benefit the American people," NASA Administrator Charles Bolden said

following release of the presidential budget proposal.

Stennis Space Center Director Rick Gilbrech said, "NASA's Stennis Space Center will continue to play a crucial role in the nation's space exploration program. The unique test facilities and technical expertise at Stennis will be used in the development and certification of new propulsion systems for NASA's Space Launch System, a heavy-lift

launch vehicle capable of missions beyond low-Earth orbit. The center will continue work with commercial space companies to provide research and development, as well as flight certification testing in support of commercial transportation to low-Earth orbit. Stennis also will continue its important work in applied science, as well as support NASA's Small Business Innovation Research Program and Small Business Technology Transfer Program."

“Stennis has always met challenges with a flexible and adaptive spirit. Sequestration is just our latest opportunity to discover ways to work more efficiently without sacrificing quality.”



From the desk of
Dorsie Jones

Manager, Office of Human Capital, Stennis Space Center

Greetings from the Office of Human Capital! Though the impact of sequestration is being felt across the federal government in the forms of program budget cuts and furloughs, NASA's situation is somewhat unique from many other agencies. We have managed our programs to conservative spending levels and are postured so that we do not plan to resort to furloughs to meet our spending reductions at this time. In fact, all of our NASA Stennis Space Center employees remain active and focused on the Stennis mission, and there is plenty of work ahead for the center.

Commercial application engine testing is continuing, such as Orbital Sciences Corporation's Antares (Aerojet AJ26) engine that will support payload delivery to the International Space Station. Blue Origin is set to return and resume testing of their thrust chamber in the E Test Complex this summer. Plans are in place to continue Space Launch System (SLS) upper-stage J-2X engine testing to 2015, and continued funding for the SLS will position our workforce to prepare for and execute testing for the RS-25 engine (formerly known as the space shuttle main engine) and acceptance testing for the SLS core stage on the B-2 Test Stand.

While focused on our primary propulsion test mission, we are also effectively responding to sequester challenges through flexibility and adaptation. Though rigorous limitations on travel are keeping us all close to home, workshops and other long-distance meetings are quickly transitioning to virtual environments. Stennis is adapting easily to this change, and while few are missing the rigors of air travel, many are finding virtual meetings comfortable and as productive as those previously held in person. Not forgetting that continued development of our workforce is paramount

to our continued success, we're also working hard to ensure the availability of ongoing training. Certification classes are continuing as always, and we are collaborating with the NASA Shared Services Center and other federal agencies to bring other training to Stennis to mitigate travel requirements.

Special assignments have been adapted such that several Stennis employees are currently in the midst of "in place" details to Headquarters and other centers, and even more are participating in NASA's various leadership development programs, including the Mid-Level Leadership Program and the NASA First Program, both of which are continuing as always. Our local leadership development opportunities are also still available for interested personnel, and the Stennis Mentoring Program is now in its sixth year and is regarded as the center's premier training option for conscientious employees eager to deepen their knowledge base.

These are certainly unusual times for federal employees, but Stennis has always met challenges with a flexible and adaptive spirit. Sequestration is just our latest opportunity to discover ways to work more efficiently without sacrificing quality, and our progress so far has been seamless. We're excited about the work ahead of us, and as we move through this era, we want to remind you of the support available to you through the Office of Human Capital. As always, I'd like to encourage all employees to stay focused, work safely and continue to make Stennis Space Center "the" Best Place to Work in the Federal Government!

Dorsie Jones

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FULFILLING NASA'S EXPLORATION MISSION



NASA prepares to gimbal test J-2X engine

Jeff Henderson, director of the A-1 Test Stand at Stennis Space Center, describes how the J-2X rocket engine thrust vector control (TVC) flight actuators recently installed on the structure work. The TVC actuators are hydraulic-pressured devices used to gimbal (pivot) the J-2X engine during a test firing in the same way it must move during an actual flight to direct the thrust and ensure proper trajectory. The actuators installed earlier this month on the A-1 Test Stand are prototypes of the ones NASA will use on the agency's new Space Launch System space vehicle. NASA engineers

at Stennis are performing pre-test checks of the devices at this time. J-2X development engine No. 10002 will be installed on the A-1 Test Stand to begin several weeks of gimbal testing in May. The testing is designed to show that the engine can be gimballed at the speed (up to five degrees per second) and in the direction needed and that it can be held in a location for as long as needed. The movement is accomplished by the actuators, which operate at 3100 psi to push and pull the engine in particular directions.

AJ26 testing continues at Stennis

Engineers at Stennis Space Center conducted a test of Aerojet's AJ26 Engine E11 on April 4, continuing support of Orbital Sciences Corporation as the company prepares to provide commercial cargo missions to the International Space Station (ISS). A team of engineers from NASA, Orbital and Aerojet conducted the engine acceptance test on the E-1 Test Stand at Stennis. A pair of AJ26 engines will provide first-stage power for Orbital's Antares rockets on ISS cargo supply missions.



FULFILLING NASA'S EXPLORATION MISSION



Curiosity rover resumes mission on Red Planet

This view of NASA's Curiosity rover's left-front and left-center wheels, and of marks made by wheels on the ground in the "Yellowknife Bay" area on Mars, comes from one of six cameras used for the first time more than six months after the rover landed. The left navigation camera linked to Curiosity's B-side computer took this image March 22. Curiosity resumed science investigations late last month after recovery from a computer glitch that prompted engineers to switch the rover to a redundant main computer on Feb. 28. The rover began monitoring the weather on March 21 and delivered a new portion of powdered-rock sample for laboratory analysis on March 23, among other activities. "We are back to full science operations," said Curiosity Deputy Project Manager Jim Erickson of NASA's Jet Propulsion Laboratory in Pasadena, Calif. The powder delivered on March 23 came from the rover's first full drilling into a rock to collect a sample. The new portion went into the Sample Analysis at Mars instrument inside the rover, which began analyzing the material. A moratorium on transmitting commands to Curiosity began April 4 and continues until May 1, while Mars is passing nearly directly behind the sun from Earth's perspective. The moratorium is a precaution against possible interference by the sun corrupting a command sent to the rover. Information about Curiosity is online at www.nasa.gov/msl and <http://mars.jpl.nasa.gov/msl/>. One can follow the mission on Facebook at: www.facebook.com/marscuriosity and on Twitter at: www.twitter.com/marscuriosity. Image credit: NASA/JPL-Caltech.

NASA in the News

NASA selects missions

NASA's Astrophysics Explorer Program has selected two missions for launch in 2017: a planet-hunting satellite and an International Space Station instrument to observe X-rays from stars. In making the selections, NASA determined the two offer the best scientific value and most feasible development plans. The Transiting Exoplanet Survey Satellite will use an array of telescopes to perform an all-sky survey to discover transiting exoplanets ranging from Earth-sized to gas giants, in orbit around the nearest and brightest stars in the sky. The Neutron Star Interior Composition Explorer will be mounted on the space station and measure the variability of cosmic X-ray sources, a process called X-ray timing. For more information, visit: <http://explorers.gsfc.nasa.gov>.

NASA identifies supernova

NASA's Hubble Space Telescope has found the farthest supernova so far of the type used to measure cosmic distances. Supernova UDS10Wil, nicknamed SN Wilson after U.S. President Woodrow Wilson, exploded more than 10 billion years ago. It belongs to a special class called Type Ia supernovae. These bright beacons are prized by astronomers because they provide a consistent level of brightness that can be used to measure the expansion of space. They also yield clues to the nature of dark energy, the mysterious force accelerating the rate of expansion. The discovery was part of a three-year Hubble program to survey faraway Type Ia supernovae. For images and more information regarding SN Wilson, visit: <http://hubblesite.org/news/2013/11>. For more about NASA's Hubble Space Telescope, visit: www.nasa.gov/hubble.

For the latest NASA news, visit online: www.nasa.gov/news/releases/latest/index.html.

Stennis hosts Area III Special Olympics

Stennis Space Center hosted participants and guests for the 2013 Area III Special Olympics games March 23. Athletes from several surrounding counties participated in a variety of activities patterned on the World Olympics, including an opening ceremony and parade of athletes, relay races, volleyball, wheelchair races, assisted walks, badminton, basketball, standing and running long jumps, shot put and short-distance dashes. Stennis is an annual sponsor of the Area III games. (Top photo) Athlete Johnny Couvillion tosses a flying disc towards a hoop. (Bottom left photo) Torchbearer Gerry West (left) and Charles Blackwood participate in the opening ceremonies. (Bottom right photo) Volunteer Erick Guttierrez (right) celebrates a performance by athlete Allissa Smith.



Early Stennis-area settler casts long shadow

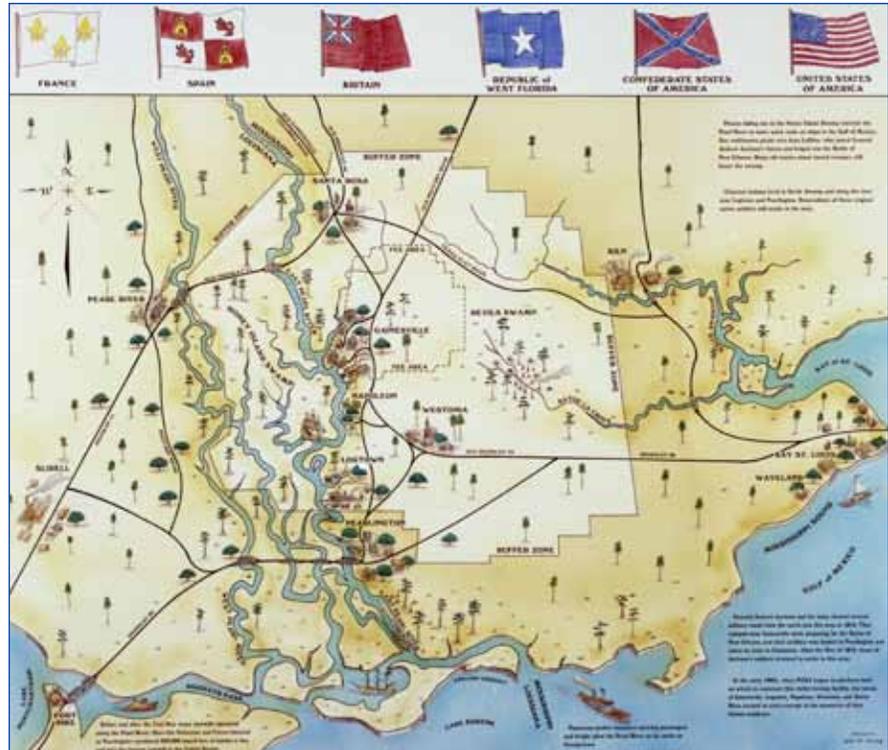
Note: For more than 50 years, NASA's John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month's Lagniappe highlights a chapter in the history of the south Mississippi rocket engine test center.

Many years before the existence of Stennis Space Center, the first non-Native American to settle in its area was a Favre. Dating back to 1767, Jean Claude Favre was the first documented landowner in Hancock County, Miss. The location of the Favre claim included the site of the future town of Napoleon, one of several towns once located in what is now Stennis' acoustic buffer zone.

Offspring Simon Favre became one of the most notable personages in the county. Like his father, Favre was a well-versed linguist. An interpreter of Muskogean languages (Choctaw and Chickasaw), the multilingual Favre translated for the French, British, Spanish and Americans in the West Florida area that became part of Mississippi and Alabama. He played a significant role during transition of the area from Spanish control to the dominion of the United States. As a Spanish commandant of the Pearl River, Favre was appointed justice of the peace for the U.S. government in 1811 and approved numerous land grants along the East Pearl River.

Favre is also noted in Mississippi history as an interpreter between Andrew Jackson and Native American leader Pushmataha, the famous Choctaw chief of the late 1700s and early 1800s. He had a direct hand in signing many Native American treaties. In 1812, Favre was appointed lieutenant colonel of the local militia of Hancock County.

After his father's death (circa 1782), Favre inherited two plantations – on the left bank of the Little Pearl River and on the right bank of the Large Pearl River. About 1806, some six years after his marriage to Celeste



Six flags (shown above) have flown over this historic area of the Stennis Space Center.

Rochon (also spelled Rouchon in Favre's 1812 Will), he began living on and cultivating the land. Favre is believed to have built the first house and store (a facility for processing pine resin for turpentine, rosin, pine pitch and other products) at what later became Napoleon. The store is thought to have later become the back of Napoleon Baptist Church.

As listed in Jerry Heitzmann's "The Favre Family," six children were born to the union of Simon Favre and Celeste Rochon. Previously, he fathered one child with Rebecca Austin and six children with a full-blooded Choctaw named Pistikiokonay, daughter of Chief Pushmataha.

After his death, land on the Pearl River went to heirs named in his will. Other offspring are mentioned in deed record books when the "heirs of Simon Favre Sr." applied for inheritance of lands in Mississippi and Alabama. Native American daughter Mary Favre, later named administratrix of her father's estate,

stated that her father died on July 21, 1813, and was buried somewhere on his plantation at or near the Pearl River. As of July 1989, no one had identified his gravesite.

The Simon Favre lineage continues through his generational female descendants with surnames such as Garcia, LaFontaine, Thompson, Travirca, Bourgeois, Ladner, Cuevas, Necaie, Nicaie, Seal, Curet, Hart, Brown, Tognattie, Murphy, Carver, Saucier, St. Tuall, Luxich, Collier, Smith, Poolson, Johnston, Chauvet, Bankston, Eagan, Mitchell, Ellis, Akoila, Cospelich, Guzman, Luc de Guerre (also known as Luke, Lux, Guery, Lucks), Stout and Favre, just to name a few.

Today, some of Favre's descendants still reside in neighboring cities near Stennis Space Center and are also prevalent among the space center's employees. Former Kiln, Miss., native and NFL legend Brett Favre's ancestry traces back to Simon Favre and Pistikiokonay's son Louis, his five times great-grandfather.

Stennis observes Holocaust Day of Remembrance

Dr. Edward Hafer, associate professor of music history at the University of Southern Mississippi, speaks during a Holocaust Day of Remembrance program at Stennis Space Center on April 10. Hafer discussed the significance of the six cabarets organized by prominent actors and musicians during their imprisonment in the Westerbork deportation camp run by the Germans in World War II. The annual Day of Remembrance program also included a reading of a Holocaust poem and a performance by Voices of Stennis. The annual Days of Remembrance were instituted by Congress and correspond with Yom HaShoah, the annual Jewish Day of Remembrance. The theme of this year's observance was "Never Again: Heeding the Warning Signs."



Jacobs receives VPP Star flag

Jacobs Technology Facility Operating Services Contract (FOSC) Group employees at Stennis Space Center celebrated receipt of their VPP Star worksite flag and plaque during a pair of all-hands sessions March 28. Jacobs General Manager Dan Pierre announced earlier this year that the FOSC workforce had advanced from Merit to achievement of Star status following the last July audit from OSHA. OSHA established the Voluntary Protection Programs emphasis in 1982 to recognize organizations for excellence in safety and health efforts.



Hail & Farewell

NASA bids farewell to the following:

Gay Irby Deputy Director
Center Operations Directorate

And welcomes the following:

Lauren Underwood AST, Engineer Technology Utilization and Commercialization
Office of the Chief Technologist

Donna Payne System Accountant
Office of Chief Financial Officer

Kathy Cooper AST, Facility Systems Safety
Office of Safety & Mission Assurance



Office of Diversity and Equal Opportunity

Diversity and inclusion key to fostering innovation

The following article was submitted by the Stennis Office of the Chief Technologist.

“To be successful, we must harness diversity of thought. Yes, diversity of people, diversity of background, diversity of experience, diversity of skills. But most important, diversity of ideas. This is about a new definition of diversity.”

Former Hewlett-Packard Chair/CEO Carly Fiorina

Innovation is fostered through a workforce that welcomes diversity so that novel creative strategies can develop. To stimulate innovation, this cultural thought needs to be ingrained into every aspect of doing business. It is the varied voices, wide ranges of experiences and perspectives that help cultivate new ideas, services, products and processes that provide the foundation for innovation to occur. However, a cultural environment averse to risk can often inhibit innovation. This is where diversity comes into play. When diversity is increased, variations in perspectives and approaches are made possible. A diverse workplace can harness heterogeneity and maximize the mix as a powerful tool to create products, services and practices that set an organization apart.

Diversity is intrinsically linked to innovation

Traditionally, diversity has been defined by gender, ethnicity, age or race. Perhaps the conventional definition needs to be revisited. Concepts like thinking skills, personality and problem-solving techniques should weigh in as components that typify diversity. Consider the diverse NASA workforce. There are individuals with differing educational backgrounds, levels of training, ranges of experience and personality types. Each diverse component brings differing perspectives, things which are critical for strengthening the multidisciplinary approaches required for engineering and technology development. This is where not only diversity, but diversity of thought needs to be considered. But what is diversity of thought?

Diversity of thought is the concept that there is more than one way to think about and accomplish something; it incorporates different ideas, identities, experiences, opinions and problem-solving techniques that may contrast with conventional thinking and encourage thinking outside the box, and beyond. Diversity of thought inherently brings about fresh information, keeps individuals from being swayed by a single concept or thought and provides balance by considering other opinions. By encouraging diversity of thought, intellectual challenges and creativity are enhanced, which can lead to innovation.

Remember, creativity doesn't just happen. It requires the catalyst of diversity of thought; that is, the unexpected connections between things that are not obvious or do not appear connected, or the perception of things

already known but viewed in a different way. So, how does diversity play a role in technological innovation for NASA? Consider the discipline of engineering. Engineering isn't just about numbers, formulas, specific parts and systems. It is also about understanding the basis of problems and creating technical solutions. A majority of engineering work is analytical, focused upon arriving at the best possible answer. There is little room for inaccuracies.

Such an approach tends to favor safer options to minimize potential risk. However, innovation requires some level of risk, which is where diversity comes into play. For example, natural and physical sciences use different disciplinary approaches for problem solving. They are based on the scientific method, whereby hypothesis, experimentation and peer review are core components of thought. In terms of innovation, integrating such diversity of thought can optimize the best of each. By coupling disciplines like engineering, the arts, business and science, different people, who see problems and solutions from varying perspectives can interact, and the opportunity to arrive at novel solutions can follow.

Innovation thrives from the willingness to take risks! By creating a cultural shift and redirecting a traditionally risk-averse culture, the boundaries to pursue new concepts and creative ideas can be pushed, and the roadblocks commonly encountered when considering risky ideas can be overcome.

That's why diversity powers innovation!

True innovation is complex; it depends as much on collective differences as it does on combined abilities. Imagine if all the brightest individuals thought alike; the same decision-making outcomes would more than likely result. By introducing diversity of thought, these same individuals can be inspired to uncover new answers.

So, how can diversity and inclusion be nurtured in the workplace? It helps if some fundamental concepts are practiced: (1) freely expand on ideas and thoughts; (2) promote and encourage open discussions and creativity; (3) limit control of meetings or stating outcome expectations at the outset; (4) respect diversity of thought; and (5) be open to ideas that may seem improbable.

This evolved definition of diversity must be embraced so that innovation can emerge. Only by encouraging the constant pursuit of innovation will the continued technological and exploration leadership that is an integral part of NASA's heritage and legacy be achieved.

Robotics teams compete in annual Bayou Regional tournament

Students from 54 high school teams in 10 states competed for top honors during the 2013 *FIRST*[®] (For Inspiration and Recognition of Science and Technology) Robotics Bayou Regional Competition on March 21-23 in Kenner, La.

A team from Parkview Baptist School in Baton Rouge, La., partnered with a pair of teams from Texas to emerge as the champion of this year's *Ultimate Ascent* game competition.

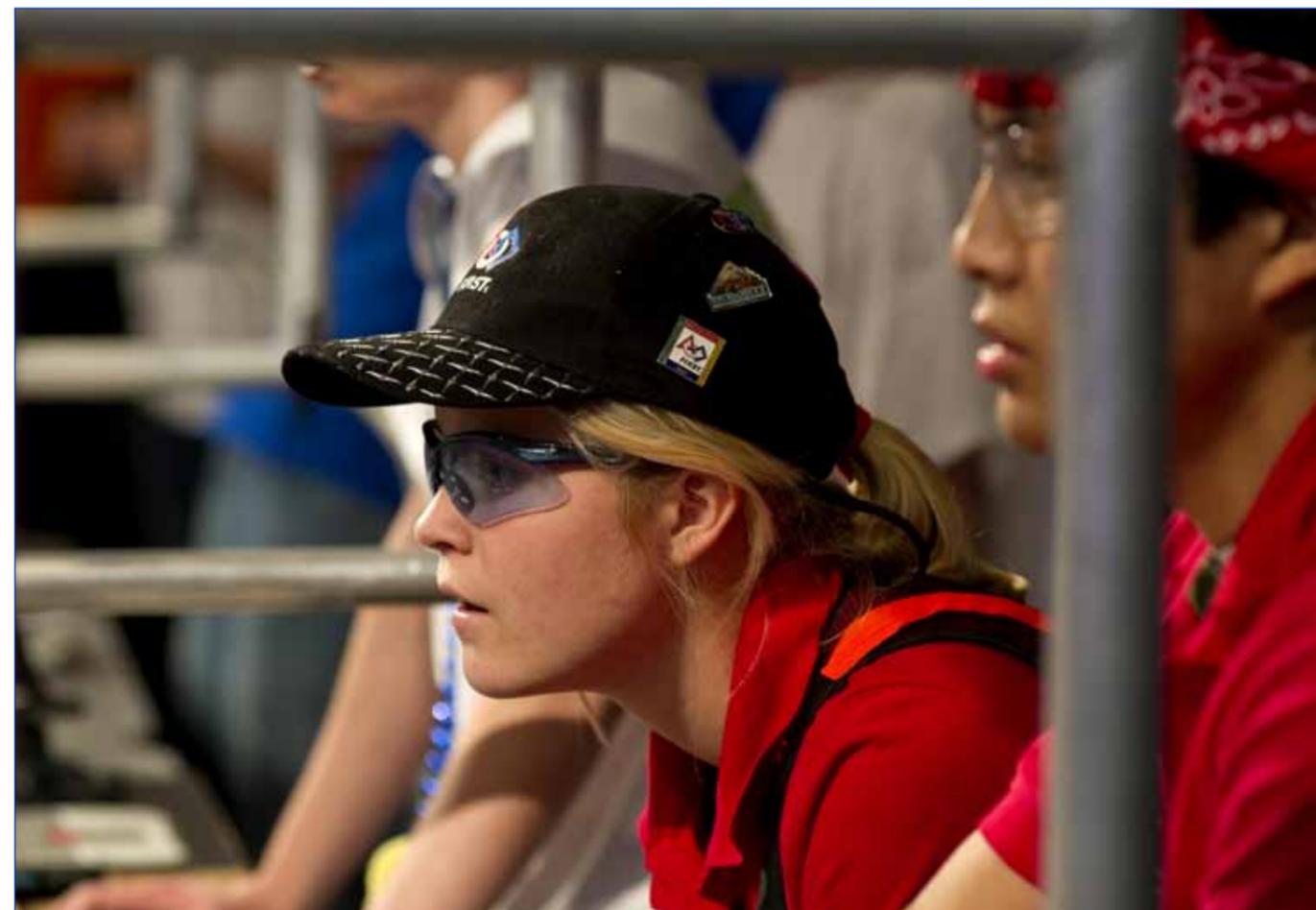
A team from Northshore High School and the St. Tammany Parish School Board in Slidell, La., walked away with the most prestigious honor, earning the Regional Chairman's Award, which recognizes the team creating the best partnership effort and best exemplifying the true meaning of *FIRST*[®]. A member of the Northshore/St. Tammany team, Scott Kent, was named a *FIRST*[®] Dean's List finalist, awarded to students who have led their teams and communities to greater awareness of *FIRST*[®] and its mission. He now is a finalist for the 2013 national Dean's List award.

In addition to Parkview, a team from Destrehan (La.) High School and a combined team from Picayune and Pearl River Central High schools reached the final round of the regional event. Also, NASA engineer Wendy Holladay from Stennis Space Center was awarded the Woodie Flowers Finalist Award for her work as a team mentor. She now is eligible for the national mentor award, presented at the national robotics tournament in St. Louis on April 25-27.

Three teams supported by Stennis Space Center will compete in the national *FIRST*[®] robotics tournament – Northshore, Picayune/Pearl River Central and Hammond (La.) High Magnet School. The Hammond team received the Regional Chairman's Award at the 2013 Razorback Regional in Fayetteville, Ark., earlier this month. The Picayune/Pearl River Central team partnered with two others to win the event.

FIRST[®] Robotics Competition (FRC) is designed to encourage students to pursue engineering and technology careers. High school teams are given six weeks to build robots that can perform assigned tasks. They then compete in regional events to earn a chance to go to the national tournament. NASA and Stennis Space Center are strong supporters of FRC and the Bayou Regional event through monetary support and the work of judges, volunteers and team mentors.

More than half of the 2013 Bayou Regional field hailed from Louisiana and Mississippi. Several of the teams made it past qualifying rounds to compete in quarterfinal and semifinal rounds.



There was plenty of intensity and activity during the *FIRST* (For Inspiration and Recognition of Science and Technology) Robotics Bayou Regional Competition in Kenner on March 21-23. The annual tournament attracted 54 high school teams from 10 states. Teams competed with robots built over a six-week span earlier this year, vying for a chance to advance to competition finals April 25-27 in St. Louis. NASA and Stennis Space Center are strong supporters of *FIRST* Robotics and the Bayou Regional event with team coaches, mentors, training, judges, referees and other volunteers.

